

IN THE CLAIMS

Please cancel claims 9-30 and 38-40, without prejudice or disclaimer.

Please amend claims 4, 7, and 42 as follows:

1. (original) A microproportioning system, comprising:
  - a reservoir;
  - a micro-diaphragm pump having an entrance connected to the reservoir;
  - a proportioning port connected to an exit of the micro-diaphragm pump;
  - a proportioning control means which is in an operative communication with the micro-diaphragm pump; and
  - a common printed circuit board;wherein the micro-diaphragm pump and the reservoir are combined to form one constructional element exchangeably connected to an actuator module in one of a microsystem technology and hybrid technology; and
  - wherein at least two components of the microproportioning system selected from the group consisting of proportioning controls means, a display, and an operating means are accommodated on the common printed-circuit board.
2. (original) The system according to claim 1, wherein the printed-circuit board is disposed in a middle region of the actuator module.

3. (original) A microproportioning system, comprising:
- a reservoir;
  - a micro-diaphragm pump having an entrance connected to the reservoir;
  - a proportioning port connected to an exit of the micro-diaphragm pump;
  - a proportioning control means which is in an operative communication with the micro-diaphragm pump; and
  - an actuator module;
- wherein the micro-diaphragm pump and the reservoir are combined to form one constructional element exchangeably connected to the actuator module in one of a microsystem technology and hybrid technology; and
- wherein a power supply is accommodated in a head region of the actuator module.

4. (currently amended) A microproportioning system, comprising:

a reservoir;

a micro-diaphragm pump having an entrance connected to the reservoir;

a proportioning port connected to an exit of the micro-diaphragm pump; and

a proportioning control means operationally communicating with the micro-diaphragm pump for controlling operation of the micro-diaphragm pump in one of two opposite pumping directions to thereby control displacement of an auxiliary liquid column from the reservoir for suction of liquid through the proportioning port and an expulsion of liquid from the proportioning port;

wherein the proportioning control means controls a proportioned volume by controlling the displacement of the auxiliary liquid column along a distance between two sensors which are in an operative communication with the proportioning control means,

wherein the distance between the two ~~sensor~~ sensors corresponds to the proportioned volume and is adjustable by one of ~~manually~~ manual adjustment and [[by]] adjustment using a mechanical drive, and the two sensors detect meniscus of the auxiliary liquid column along a displacement length, and

wherein the mechanical drive includes a screw having a servo-drive and a screw nut, with one of the two sensors being mounted on the screw.

5. (original) A microproportioning system, comprising:
- a reservoir with a to-be-metered liquid;
  - a micro-diaphragm pump having an entrance connected to the reservoir;
  - an open jet proportioner having an entrance connected to an exit of the micro-diaphragm pump;
  - a proportioning port connected to an exit of the open jet proportioner; and
  - a proportioning control means operatively communicating with the micro-diaphragm pump and the open-jet proportioner,
- wherein the reservoir is provided with at least one component of the microproportioning system selected from the group consisting of cooling means and a heat insulation for the to-be-metered liquid.
6. (original) A microproportioning system, comprising:
- a reservoir with a to-be-metered liquid;
  - a micro-diaphragm pump having an entrance connected to the reservoir;
  - an open jet proportioner having an entrance connected to an exit of the micro-diaphragm pump;
  - a proportioning port connected to an exit of the open jet proportioner;
  - a proportioning control means operatively communicating with the micro-diaphragm pump and the open-jet proportioner; and
  - a heating means provided at least in one of the components of the microproportioning system selected from the group consisting of the micro-diaphragm pump, the open jet proportioner, and connecting lines for heating the to-be-metered liquid.

7. (currently amended) A microproportioning system, comprising [.] :
- a reservoir with an auxiliary liquid;
  - a micro-diaphragm pump having an entrance connected to the reservoir;
  - a proportioning port connected to an exit of the micro-diaphragm pump; and
  - a proportioning control means operatively communicating with the micro-diaphragm pump for controlling displacement of an auxiliary liquid column from the reservoir for effecting one of suction of the liquid through the proportioning port and expulsion of liquid from the proportioning port by controlling an operation of the micro-diaphragm pump in one of a first direction in which the micro-diaphragm pump pumps the liquid from the reservoir, and a second opposite direction in which the liquid is sucked into the reservoir, at least partially;
- wherein the proportioning control means is adapted to control a volume being proportioned by controlling a stroke volume of the micro-diaphragm pump; and
- wherein the proportioning control means is adapted to determine the volume being proportioned on basis of calibration of the stroke volume that it establishes by displacing an auxiliary liquid column by the micro-diaphragm pump along with a calibration length between two sensors operatively connected with the proportioning control means for detection of meniscus of an auxiliary liquid column.

8. (original) A microproportioning system comprising:
- a reservoir with a to-be-metered liquid;
  - a micro-diaphragm pump having an entrance connected to the reservoir;
  - an open jet proportioner having an entrance connected to an exit of the micro-diaphragm pump;
  - a proportioning port connected to an exit of the open jet proportioner; and
  - a proportioning control means operatively communicating with the micro-diaphragm pump and the open-jet proportioner;
- wherein the reservoir has a capillary balance system.

Claims 9-30 (canceled).

31. (original) A microproportioning system comprising:
- a reservoir with a to-be-metered liquid;
  - at least one system component selected from the group consisting of a micro-diaphragm pump having an entrance connectable to the reservoir, and an open jet proportioner having an entrance connectable to one of an exit of the micro-diaphragm pump and to the reservoir;
  - a proportioning port connected to an exit of the at least one of the micro-diaphragm pump and the open jet proportioner;
  - a proportioning control means operative by communicating with at the least one of the micro-diaphragm pump and the open jet proportioner;
  - wherein the reservoir and at least one of a micro-diaphragm pump and an open jet proportioner are combined to form one constructional element exchangeably connected to an actuator module in one of microsystem technology and hybrid technology; and
  - wherein the proportioning control means is connected to a sensor for detection of meniscus of the liquid at the beginning of a displacement length of the liquid for adjustment of an initial position for displacement of a liquid column.

32. (original) The system according to claim 31, wherein the sensor is associated with a dispensing tube for the liquid.

33. (original) The system according to claim 32, wherein the dispensing tube is connected to a constructional element.



34. (original) The system according to claim 33, wherein the constructional element is exchangeably connected to a base region of an actuator module.
35. (original) The system according to claim 34, wherein the proportioning control means is permanently connected to the actuator module, and the constructional element is separably connected to the proportioning control means by an electric contact.
36. (original) The system according to claim 34, wherein a sensor is permanently connected to the actuator module.
37. (original) The system according to claim 34, wherein a power supply is accommodated in a head region of the actuator module.
- Claims 38-40 (canceled).

41. (original) A microproportioning system comprising:
- a reservoir with a to-be-metered liquid;
  - at least one system component selected from the group consisting of a micro-diaphragm pump having an entrance connectable to the reservoir, and an open jet proportioner having an entrance connectable to one of an exit of the micro-diaphragm pump and the reservoir;
  - a proportioning port connected to an exit of the at least one of the micro-diaphragm pump and the open jet proportioner;
  - a proportioning control means operative by communicating with at the least one of the micro-diaphragm pump and the open jet proportioner;
  - a common printed circuit board; and
  - an actuator module;
- wherein the reservoir and at least one of a micro-diaphragm pump and an open jet proportioner are combined to form one constructional element exchangeably connected to the actuator module in one of microsystem technology and hybrid technology; and
- wherein at least one system component selected from the group comprising the proportioning control means, display, and operating means is accommodated on the common printed-circuit board.

42. (currently amended) A microproportioning system, comprising:
- a reservoir with an auxiliary liquid;
  - a micro-diaphragm pump having an entrance connected to the reservoir;
  - a proportioning port connected to an exit of the micro-diaphragm pump; and
  - a proportioning control means operatively communicating with the micro-diaphragm pump for controlling displacement of an auxiliary liquid column from the reservoir for effecting one of suction of the liquid through the proportioning port and expulsion of liquid from the proportioning port by controlling an operation of the micro-diaphragm pump in one of a first direction in which the micro-diaphragm pump pumps the liquid from the reservoir, and a second opposite direction in which the liquid is sucked in the reservoir, at least partially;
- wherein the proportioning control means is connected to sensors for detection of meniscus of the liquid at beginning of a displacement length of the liquid for adjustment of an initial position for displacement of an auxiliary liquid column.